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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,251	07/30/2003	Timothy Scott Shaffer	9D-HL-25032 (13307-578)	9392
23465 7590 05/20/2009 JOHN S. BEULICK C/O ARMSTRONG TEASDALE, LLP ONE METROPOLITAN SQUARE SUITE 2600 ST LOUIS, MO 63102-2740			EXAMINER STINSON, FRANKIE L	
			ART UNIT 1792	PAPER NUMBER
			NOTIFICATION DATE 05/20/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USpatents@armstrongteasdale.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/630,251	<b>Applicant(s)</b> SHAFFER, TIMOTHY SCOTT	
	<b>Examiner</b> FRANKIE L. STINSON	<b>Art Unit</b> 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 06 March 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 24-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 24-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 1792

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over UK'251 in view of either Martz, Jr. (U. S. Pat. No. 3,223,108) or Takeda et al. (U. S. Pat. No. 5,315,847).

Re claim 1, UK'251 discloses a washing machine comprising:

a tub;

a sensor positioned and configured to sense a conductivity of a fluid in said tub; and

a controller operatively coupled to said sensor for controlling an amount of the fluid in said tub based on the conductivity of the fluid (see abstract, see page 1, lines 25-35, , see page 1, lines 82-94, particularly see "volume", at line 92 and see "conductivity" at page 1, lines 95-99) during a rinse cycle (page 1, lines 6-10 and lines 18-24) that differs from the claim only in the recitation of the resistance network, resistor and voltage source. Martz (see fig. 2) and Takeda (see fig. 7) each disclose the resistance network, resistor and voltage source in a conductivity sensor as claimed. Since UK'251 discloses the claimed invention except that the same employs a non-specific conductivity sensor instead of resistance network sensor , note that Martz (see fig. 2) and Takeda (see fig. 7) each shows a sensor for measuring conductivity employing a resistance network, resistor and voltage source is an equivalent structure known in the art. Therefore, because these two sensors were art-recognized equivalents at the time the invention

Art Unit: 1792

was made, one of ordinary skill in the art would have found it obvious to substitute the for the sensor in UK'251, a sensor as taught by either Martz or Takeda (see MPEP 2144.06 SUBSTITUTING EQUIVALENTS KNOWN FOR THE SAME PURPOSE). And It therefore would have been obvious to one having ordinary skill in the art, with predictable results, to modify the sensor of UK'251, to include a resistance network and voltage source as taught by either Martz or Takeda, with no change in their respective function, for the purpose of precisely measuring the conductivity. All of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination, (i.e., the combination of known old elements into a single device) would have yielded predictable results to one of ordinary skill in the art at the time of the invention. It is old and well known in the art to employ resistance network/voltage conductivity as taught by either Martz or Takeda, for their precise measurement capability. The claim also would have been obvious because the technique for improving a particular class of a device was part of the ordinary capabilities of a person of ordinary skill in the art, in view of the teaching of the technique for improving other situations. Also with respect to claim 1, namely the steps function or method of operation of the controller is of little patentable weight given that the applied prior discloses all of the claimed structure; the device is clearly capable of functioning as claimed. It is the examiner's position that all that is required of the prior art is that the same be capable of, or having the ability of functioning as claimed, with the prior art not having to explicitly state the claimed steps, function or method of operation. It is also

Art Unit: 1792

known that microcontroller/processors inherently have many possible control scenarios and that same is clearly capable of functioning/operating as claimed with the proper programming.

**In re Hutchison, 69 USPQ 138**

Functional limitation must be evaluated and considered. However, it must be determined whether the functional limitation provides a positive limitation or only the ability to perform the claimed function. If it is only the ability to perform the function, the language does not constitute a limitation in any patentable sense.

**MPEP 2173.05(g) Functional Limitations:**

A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. In re Swinehart, 439 F.2d 210, 169 USPQ 226 (CCPA 1971). A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step. >In Innova /Pure Water Inc. v. Safari Water Filtration Sys. Inc., 381 F.3d 1111, 1117-20, 72 USPQ2d 1001, 1006-08 (Fed. Cir. 2004), the court noted that the claim term “ operatively connected” is “ a general descriptive claim term frequently used in patent drafting to reflect a functional relationship between claimed components,” that is, the term “ means the claimed components must be connected in a way to perform a

designated function.” “ In the absence of modifiers, general descriptive terms are typically construed as having their full meaning.” Id. at 1118, 72 USPQ2d at 1006. In the patent claim at issue, “ subject to any clear and unmistakable disavowal of claim scope, the term operatively connected’ takes the full breath of its ordinary meaning, i.e., said tube [is] operatively connected to said cap’ when the tube and cap are arranged in a manner capable of performing the function of filtering.” Id. at 1120, 72 USPQ2d at 1008.< Whether or not the functional limitation complies with 35 U.S.C. 112, second paragraph, is a different issue from whether the limitation is properly supported under 35 U.S.C. 112, first paragraph, or is distinguished over the prior art. A few examples are set forth below to illustrate situations where the issue of whether a functional limitation complies with 35 U.S.C. 112, second paragraph, was considered. It was held that the limitation used to define a radical on a chemical compound as “ incapable of forming a dye with said oxidizing developing agent” although functional, was perfectly acceptable because it set definite boundaries on the patent protection sought. In re Barr, 444 F.2d 588, 170 USPQ 33 (CCPA 1971). In a claim that was directed to a kit of component parts capable of being assembled, the Court held that limitations such as “ members adapted to be positioned” and “ portions . . . being resiliently dilatable whereby said housing may be slidably positioned” serve to precisely define present structural attributes of interrelated component parts of the claimed assembly. In re Venezia, 530 F.2d 956, 189 USPQ 149 (CCPA 1976

## **MPEP 2114: APPARATUS AND ARTICLE CLAIMS—FUNCTIONAL LANGUAGE**

### **APPARATUS CLAIMS MUST BE STRUCTURALLY DISTINGUISHABLE FROM THE PRIOR ART**

>While features of an apparatus may be recited either structurally or functionally, claims<directed to >an< apparatus must be distinguished from the prior art in terms of structure rather than function. >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429,1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference

Art Unit: 1792

relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); < *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959).

“ [A]pparatus claims cover what a device is, not what a device does.” *Hewlett-Packard Co. v. Bausch &*

*Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original).

#### **MANNER OF OPERATING THE DEVICE DOES NOT DIFFERENTIATE APPARATUS CLAIM FROM THE PRIOR ART**

A claim containing a “ recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (The preamble of claim

1 recited that the apparatus was “ for mixing flowing developer material” and the body of the claim recited “ means for mixing ..., said mixing means being stationary and completely submerged in the developer material” . The claim was rejected over a reference which taught all the structural limitations of the claim for the intended use of mixing flowing developer. However, the mixer was only partially submerged in the developer material. The Board held that the amount of submersion is immaterial to the structure of the mixer and thus the claim was properly rejected.).

Re claim 2, UK'251 and Takeda disclose the sensor positioned in within the tub. Re claims 4-7, 9 and 10, UK'251, Takeda and Martz all discloses the sensing of the conductivity as claimed. Re claim 3, Martz discloses the sensor outside of the tub. Re

Art Unit: 1792

claim 8, note that the period of 3 seconds claimed is of little patentable weight in apparatus claims and in view of the inherent period in UK'251, Takeda and Martz.

3. Claims 24-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over either UK'898 (United Kingdom 2 266 989) or EPO'721 (European Patent Office 0 686 721) in view of Martz, Jr. (U. S. Pat. No. 3,223,108) or Takeda et al. (U. S. Pat. No. 5,315,847) or Blades (U. S. Pat. No. 5,260,663).

Re claim 24, UK'898 and EPO'721 are each cited disclosing a washing machine comprising:

a tub (3 in UK'898 and 3 in EPO'721);

a sensor (12 and see page 5, lines 19-21 in UK'898 and 14 in EPO'721), said sensor positioned and configured to sense a conductivity of a fluid in said tub;

a fluid delivery and draining assembly (5, 6, 7, 10, 11 in UK'898 and 4, 5, 6, 8 and 20, col. 6, lines 22-24 in EPO'721) coupled in communication with said, sensor said fluid delivery and draining assembly configured to control an amount of the fluid in said tub during a rinse cycle based on the conductivity of the fluid measured at an end of a wash cycle (see page 3, lines 6-9, and page 6, lines 3-8 in UK'898 and see col. 2, lines 27-52 and col. 6, line 41 thru col. 7 line 26 in EPO'721) that differs from the claim only in the recitation of the resistance network, resistor and voltage source. Martz (see fig. 2), Takeda (see fig. 7) and Blades (see fig. 1, 2 and 7) each disclose the resistance network, resistor and voltage source as claimed. It therefore would have been obvious to one having ordinary skill in the art, with predictable results, to modify the sensor



Art Unit: 1792

arrangement of either UK'898 or EPO'721, to include a resistance network, resistor and voltage source as taught by Martz, Takeda or Blades, with no change in their respective function, for the purpose of precisely monitoring the conductivity of the water. It is old and well known in the art to employ resistance network/voltage conductivity sensors as taught by Martz, Takeda or Blades, for their precise measurement capability. All of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination, (i.e., the combination of known old elements into a single device) would have yielded predictable results to one of ordinary skill in the art at the time of the invention. In regard to the functional language of the fluid delivery and draining assembly being configured to

channel fluid into said tub;

at predetermined fluid levels within said tub during the rinse cycle, measure an average liquid conductivity;

calculate an overall change in conductivity based on the measured average liquid conductivity at each predetermined fluid level;

compare the calculated overall change in conductivity to a desirable achievable rinse level; and

cease the rinse cycle when the overall change in conductivity exceeds an acceptable change percentage of the desirable achievable rinse level, it is the examiner's position that, as per *In re Hutchinson* as cited above, with proper

Art Unit: 1792

programming, UK'898 (col. 6, line 3 thru col. 7, line 2) and EPO'721 (col. 2, line 27-53 and col. 6, line 25 thru col. 26), are clearly capable of and have the ability of functioning as claimed. Re claims 25-28, 30 and 31, UK'898 and EPO'721 are clearly capable of being configured to sense the conductivity as claimed. Re claim 29, note that the period of 3 seconds claimed is of little patentable weight in apparatus claims and in view of the inherent period in UK'898, EPO'721, Takeda and Martz. Re claim 32, Blades discloses the waver as claimed (see figs. 7, 12, 13 and 15).

4. Applicant's arguments filed March 6, 2009 have been fully considered but they are not persuasive. In regard to the remarks that the examiner has used hindsight, it is the examiner position that as per *In re Hutchison*, 69 USPQ 138

*Functional limitation must be evaluated and considered. However, it must be determined whether the functional limitation provides a positive limitation or only the ability to perform the claimed function. If it is only the ability to perform the function, the language does not constitute a limitation in any patentable sense.*

The functional limitations of the instant claims have been evaluated and considered and with the claimed structure being "a controller", controllers have an inherent function as associated with certain structure. That is, given that the prior art has all of the instantly claimed structure, the function as claimed is deemed to be inherent. As for the structure being "a fluid delivery and draining assembly in communication a resistance network, voltage source and sensor to sense the conductivity", UK'898 and EPO'271, as proposedly modified, disclose the fluid delivery and draining assembly. As previously noted above, UK'898 and EPO'721 are each configured to "channel fluid to the tub",

Art Unit: 1792

“measure the average conductivity”, “calculate and compare the conductivity to a desirable level” and “cease/terminate the rinse cycle”. The Office Action has not stated that there was anything intrinsically wrong or improper with the instantly claimed functional limitations, but only that they present no patentable distinction over that of the applied prior art. In regard to the remarks on UK’251 (Buttner) reference namely that the same fails to disclose the resistance network sensor and voltage source, as noted above, the examiner agrees with this statement, however, it was Martz and Takeda that were cited to disclose this structure. It is also agreed that Marts fails to disclose the sinusoidal or square wave, note the teaching in Blades. Is it also suggested that to achieve the desired protection, method claims would present the best option.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1792

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANKIE L. STINSON whose telephone number is (571) 272-1308. The examiner can normally be reached on M-F from 5:30 am to 2:00 pm and some Saturdays from approximately 5:30 am to 11:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr, can be reached on (571) 272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/FRANKIE L. STINSON/  
Primary Examiner, Art Unit 1792